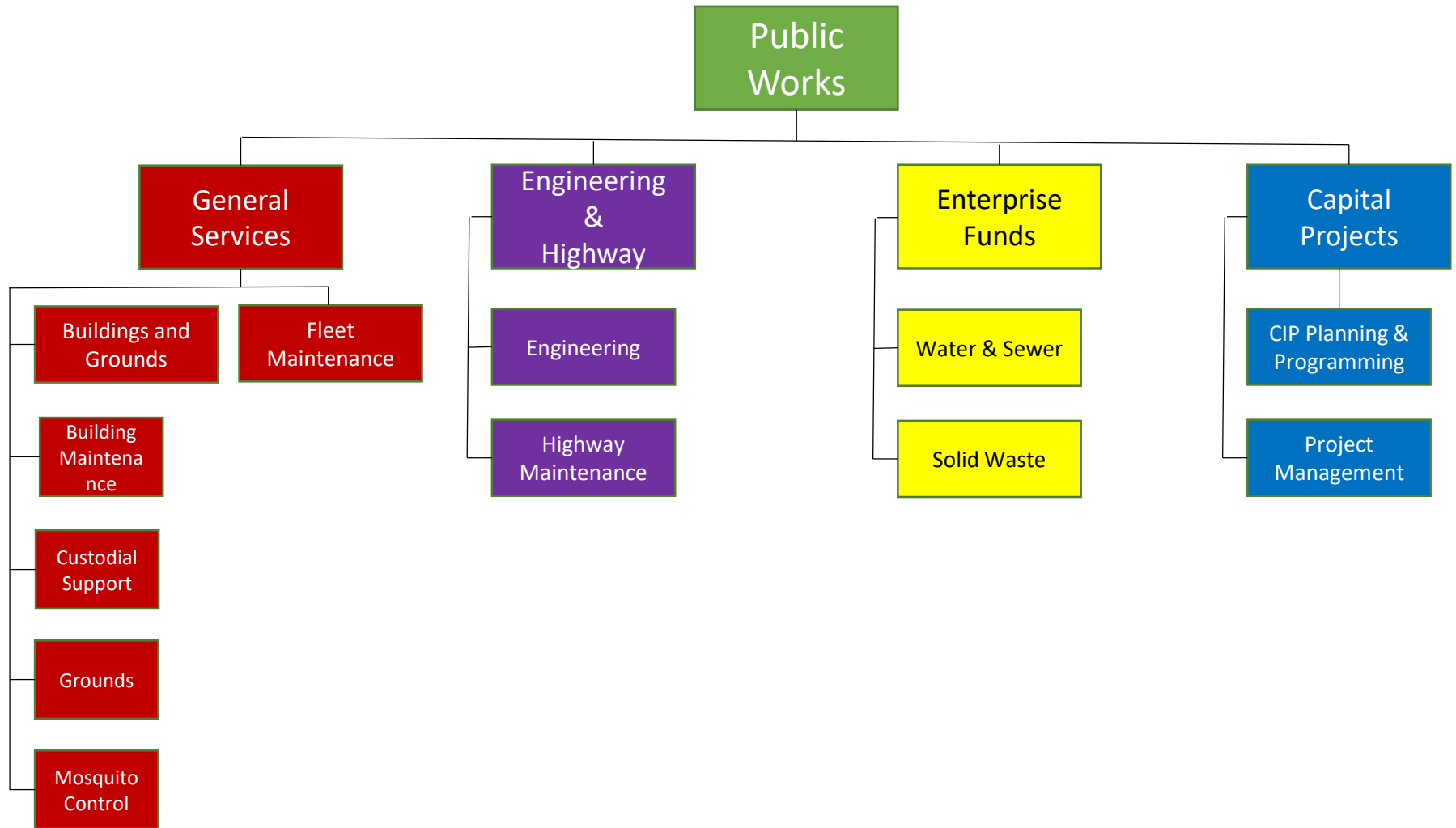


Public Works Overview for Environmental Commission

Calvert County Public Works

Public Works Organizational Chart





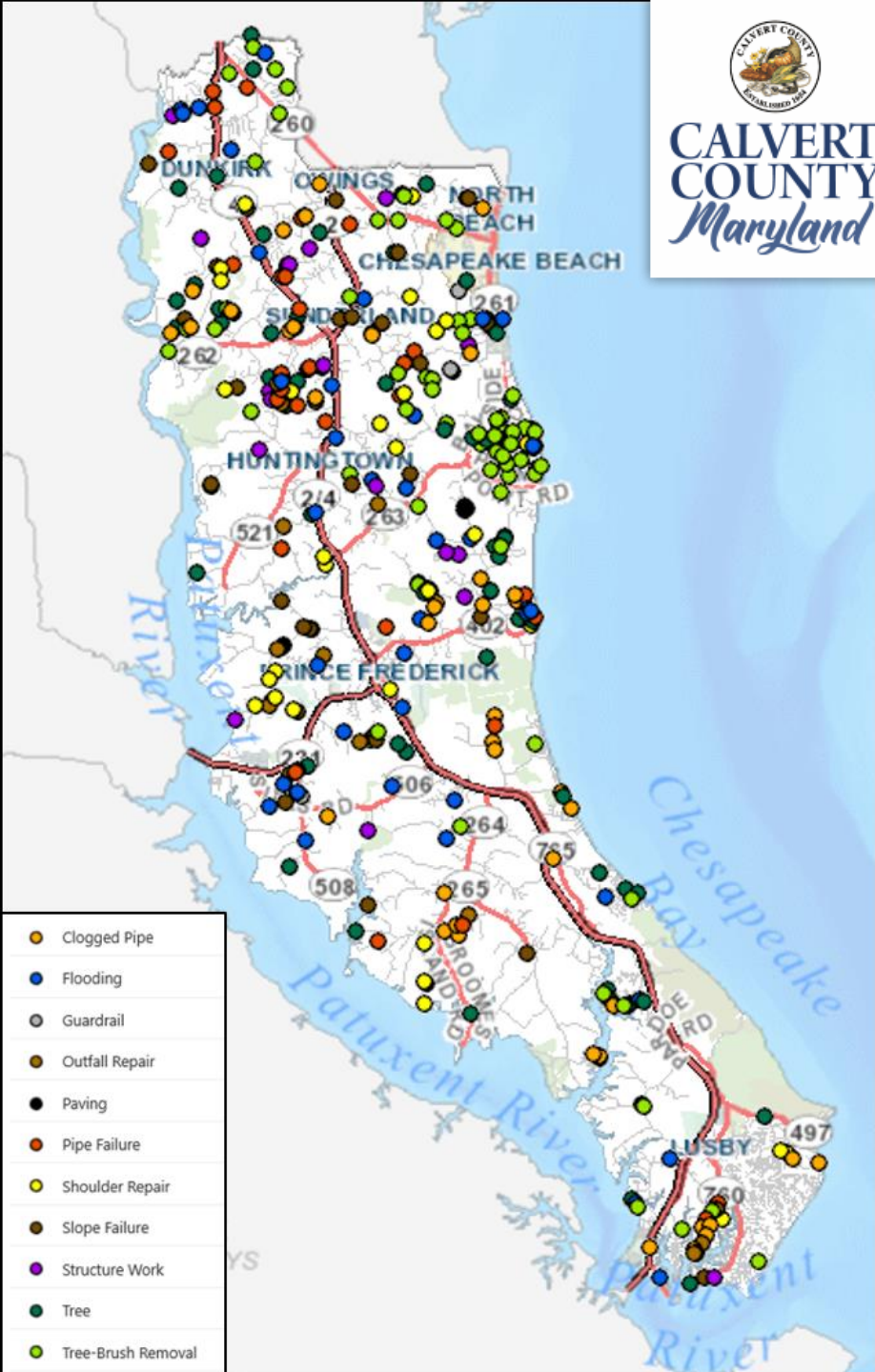
- Teammates – We are better together than we will ever be individually
- Processes – Are there to efficiently guide us. This is an established way of business proven over the test of time
- Customers – They are the reason we are so fortunate to have this job
- Customer Service – We will always be graded on this. Sometimes it comes down to your delivery, and not what you said or did.
- Safety – What we do everyday is absolutely dangerous. Remember that. Always make sure you are mitigating risks to keep our customers and our teammates safe.
- Leadership – Leaders (YOU) are the glue that keeps all of these areas in balance and in motion at all times

- 92,525 Residents
- ~ 496 Miles of roads
- ~ 1400 Right of Ways
- ~ 1000 Lane Miles
- 465,000 linear feet of sewer line and drainage system infrastructure
- Two Landfills
- 6 Convenience Centers
- 15 Water Towers
- 19 Drinking Water Systems
- 77 Miles of Water Mains
- 5 Wastewater Treatment Plants
- 12 Hydropneumatic Tanks



CALVERT COUNTY
Maryland

ISAIAS Impact on the County





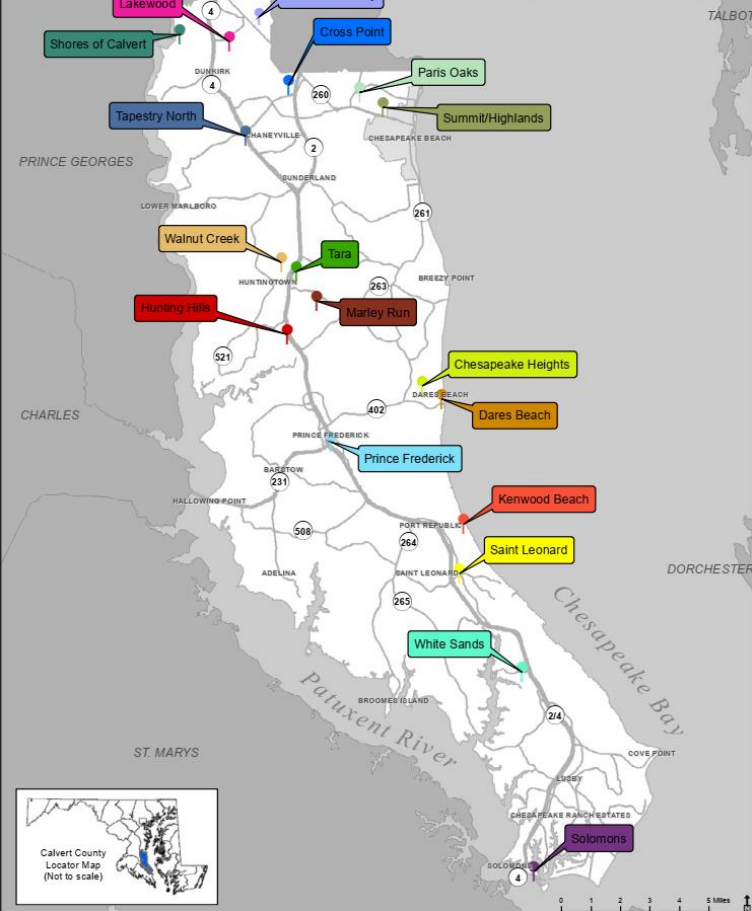




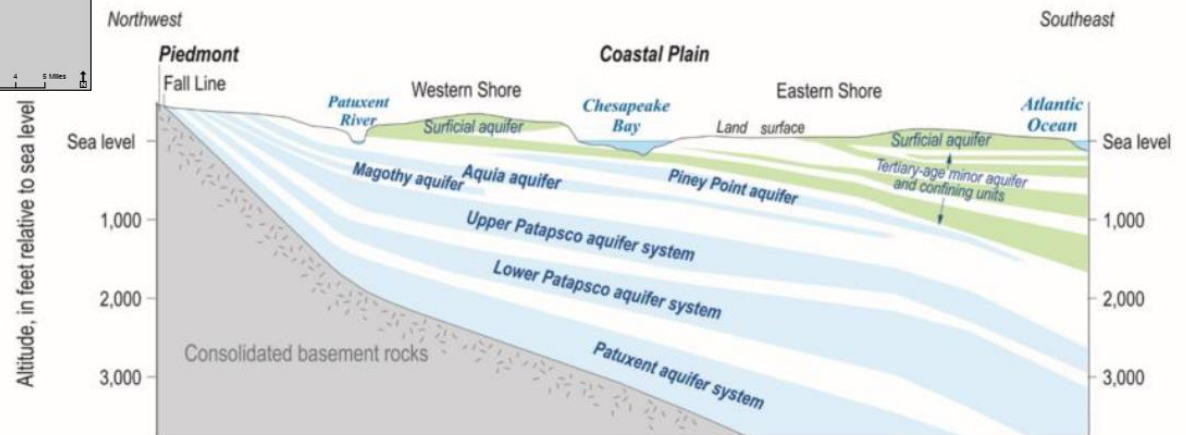


- Water Production and Distribution
 - Combined daily average flow of 1.1 MGD
 - 9,411 Gallons of Hypochlorite used
 - 809 Gallons of CP-33 used
- Wastewater Collection, Treatment & Recycling
 - Combined daily average flow of 1.4 MGD
 - 1,998 Tons of Biosolids produced
 - 15 Rapid infiltration Basins, 5 Acres of Subsurface Drip Irrigation, 200 Acres of Forest Irrigation, 1 Direct Discharge
- Infrastructure and Maintenance
 - 1,983 WOs completed
 - 47 Main repairs
 - 96 Inspections Performed

Public Water Systems in Calvert County, MD



**Presented By
Calvert County**





- 19 Water Systems
- 47 Sewer Pumping Stations
- 5 Wastewater Treatment Plants
- 5,650 Customers
- Water Production (CY20) – 423 Million Gallons
- Wastewater Recycled (CY20) – 343 Million Gallons
- Read, connect, disconnect, maintain, and install 5,100 meters

Solid Waste & Recycling

30% recycling rate by 2028



Calvert County
Department of Public Works
Solid Waste Division



- Barstow capped in 1998
- Appeal South Cell (over 73% full)
 - Total capacity 2,779,290 cu yds/ 1,679,574 tons
 - Remaining capacity 2,181,452.45 cu yds/ 1,309,871.64 tons
- Appeal North Cell (permitted, but not open)
- Transfer Station - Waste transferred out-of-County to save the space for future generations
- 6 Convenience Centers
 - Accept solid waste and recyclables from residents
 - Transport collected materials to the Appeal Transfer Station for further processing
 - Recyclables are collected or moved into containers or trailers and transferred to respective markets
- Solid Waste Handled (CY2020) – 121,026 tons
- Recyclables Collected (CY2020) – 25,601 tons

Year

% Recycling

2016

26.01

2017

22.84

2018

24.58

Solid Waste & Recycling



Material Type	2019 Tons	2020 Tons	Where the Material Goes
MSW	115,086	120,832	Appeal Transfer Station then to King William VA Landfill
MSW	302	194	Appeal Landfill
Brush	1,661	2,600	For distribution to county residents and for use on county properties
Glass	281	667	Olive Street Processing
Metal	3,280	3,400	Destination dependent upon type of metal
Paper	6,792	6,819	Olive Street Processing
Plastic	742	1,599	Olive Street Processing
Electronics	408	376	e-Revival
Textiles	828	201	Mid Atlantic Clothing
Tire	870	644	Emanuel Tire
Scrap Metal	8,682	7,560	Southern Maryland Recycling
Waste Oil	6,215	1,735	Origin Baltimore Recycling

Enterprise Funds – Capital Projects

What we are working on to get better

Water & Sewer

- Paris Oaks well and Treatment Building
- St. Leonard Water Tower, Well, and Extension
- Back Creek Loop
- Chesapeake Heights Water Distribution System Replacement
- Cavalier Country Water Distribution System Replacement
- West Prince Frederick Storage Tank
- Prince Frederick Water Line Improvements
- Chesapeake Heights Well and Water Main Extension, Phase 2
- Solomon's' Headworks Pumping Station Upgrade
- Septage Receiving Facility Upgrade
- Highlands Pressure Sewer System

Solid Waste

- Appeal Landfill Scale House
- Appeal Transfer Station
- Ball Road Convenience Center
- Barstow Convenience Center
- Recycling Materials Storage and Processing Building

The Highlands Pressure Sewer System

ADDRESS Chesapeake Beach, MD



SUMMARY/PURPOSE

The aging septic systems in The Highlands are beginning to fail. A pressure sewer system with a separate grinder sump dedicated to each property will replace the septic systems.

Schedule

DESIGN STATUS	Start Date		End Date		STATUS / NOTES
	Estimated	Actual	Estimated	Actual	
Scope Development					
Proposals					
Bid					
Award			9/1/21		
Concept Design					
TEG					
Design Development					
Construction Documents			9/1/22		Based on WRA scope.

CONSTRUCTION STATUS	Start Date		End Date		STATUS / NOTES
	Estimated	Actual	Estimated	Actual	
Scope Development					
Proposals					
Bid			11/5/22		
Award					
NTP & Construction	12/5/22		7/5/24		Based on PM Guess.
U&O					
Final Billing					

DEPARTMENT: DPW – Division of Water & Sewerage

PRIMARY CONTACT Andy Hipski, PE

CONTACT # 410-474-3366

CONTACT Email Andy.Hipski@CalvertCountyMD.gov

ENGINEER: Whitman, Requardt & Associates, LLP

PRIMARY CONTACT Will F. Hinz, PE

CONTACT # 240-206-0494

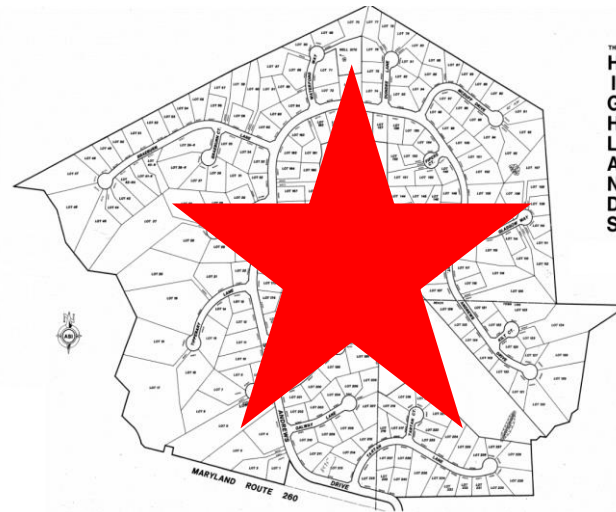
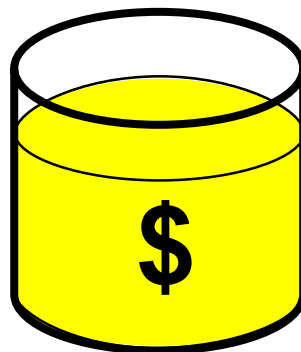
CONTACT Email whinz@wralp.com

CONTRACTOR: TBD

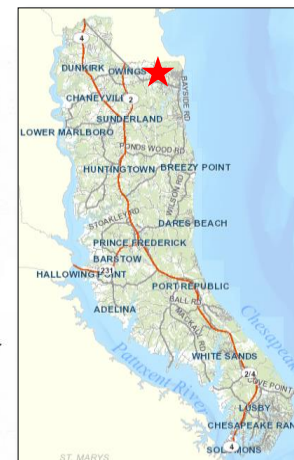
PRIMARY CONTACT TBD

CONTACT # TBD

CONTACT EMAIL: TBD

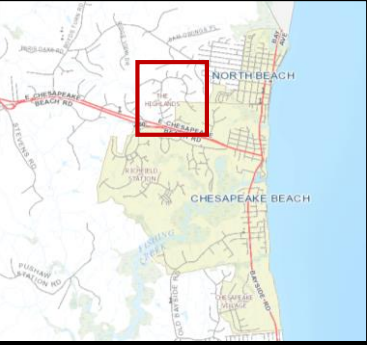


THE
HIGHLANDS

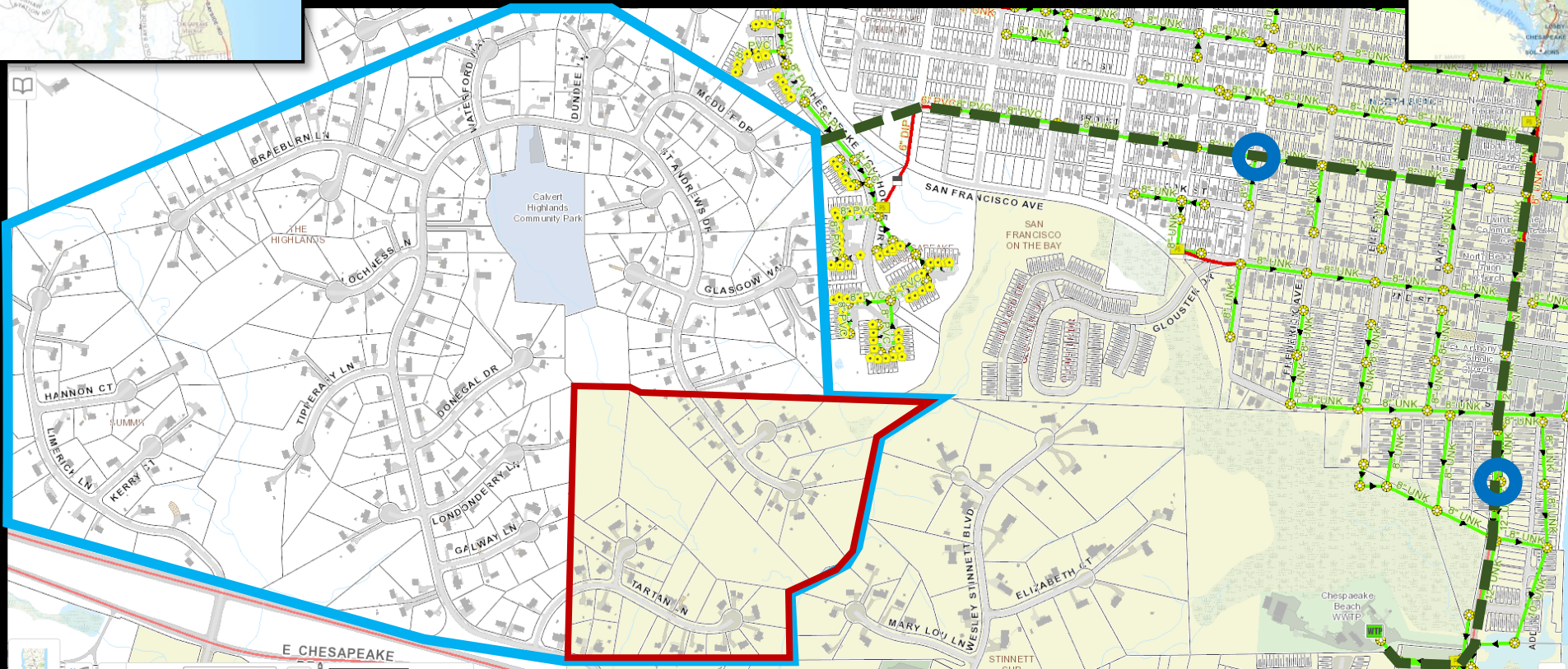


Project Notes:

Current on call contracts expire 6/1/21. If design proposal is not approved for a PO by then, it will have to wait until the new contracts are effective.



Map showing rough sketch of Highlands flow path through our collection system and North Beach into Chesapeake Beach. The blue circles represent the location of meters we have installed in the sewer that the flow will pass through. The Southern meter location is the one that is used by Chesapeake Beach for billing.



Appeal Transfer Station

ADDRESS

401 Sweetwater Road, Lusby, MD



SUMMARY/PURPOSE

The County's refuse hauling contract with Waste Management expires in FY2022. The contractor built and owns the current transfer station building, located at the Appeal Landfill. This project scope includes constructing a county-owned facility, will create a covered area large enough to collect the solid waste from residential and commercial haulers. However, the County is exploring the option of contracting the design, construction and operation to a 3rd party vendor. This new facility will have separate service areas for residential and commercial customers. Staff completed a feasibility study in FY2019.

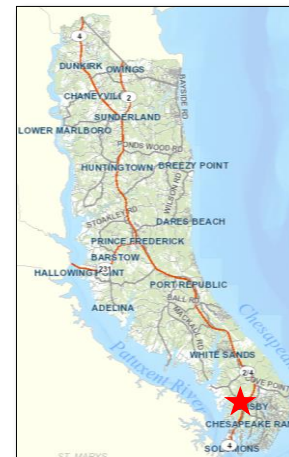
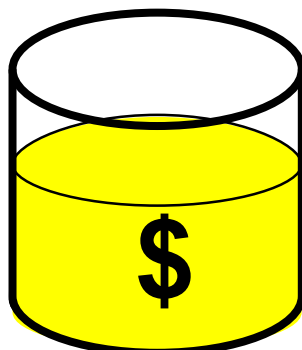
Schedule

DESIGN STATUS	Start Date		End Date		STATUS / NOTES
	Estimated	Actual	Estimated	Actual	
Scope Development					
Proposals					
Bid					
Award					
Concept Design					
TEG					
Design Development					
Construction Documents					
Permitting					
CONSTRUCTION STATUS	Start Date		End Date		STATUS / NOTES
	Estimated	Actual	Estimated	Actual	
Scope Development					
Proposals					
Bid					
Award					
NTP & Construction					

DEPARTMENT DPW Solid Waste Division
PROJECT MANAGER Emily Matthews, PE
CONTACT # 443-532-1808
CONTACT Email Emily.Matthews@CalvertCountyMD.gov

ENGINEER
PRIMARY CONTACT
CONTACT #
CONTACT Email

CONTRACTOR
PRIMARY CONTACT
CONTACT #
CONTACT Email



Project Notes:

RFP is being revised based on CAO comments. Once the bids are back for the RFP of the service contract (design, construct, operate, maintain) a decision will be made on whether or not this project for a County-owned facility will go forward. No Scheduled dates currently.

Municipal Separate Storm Sewer System (MS4) refers to a collection of structures designed to gather stormwater and discharge it into local streams and rivers.

- Owned by a state, city, town, village, or other public entity that discharges to waters of the U.S.,
- Designed or used to collect or convey stormwater (e.g., storm drains, pipes, ditches),
- Not a combined sewer, and
- Not part of a sewage treatment plant, or publicly owned treatment works (POTW).

Prevent harmful pollutants from being washed or dumped into MS4s, certain operators are required to obtain NPDES permits and develop stormwater management programs (SWMPs). The SWMP describes the stormwater control practices that will be implemented consistent with permit requirements to minimize the discharge of pollutants from the sewer system.

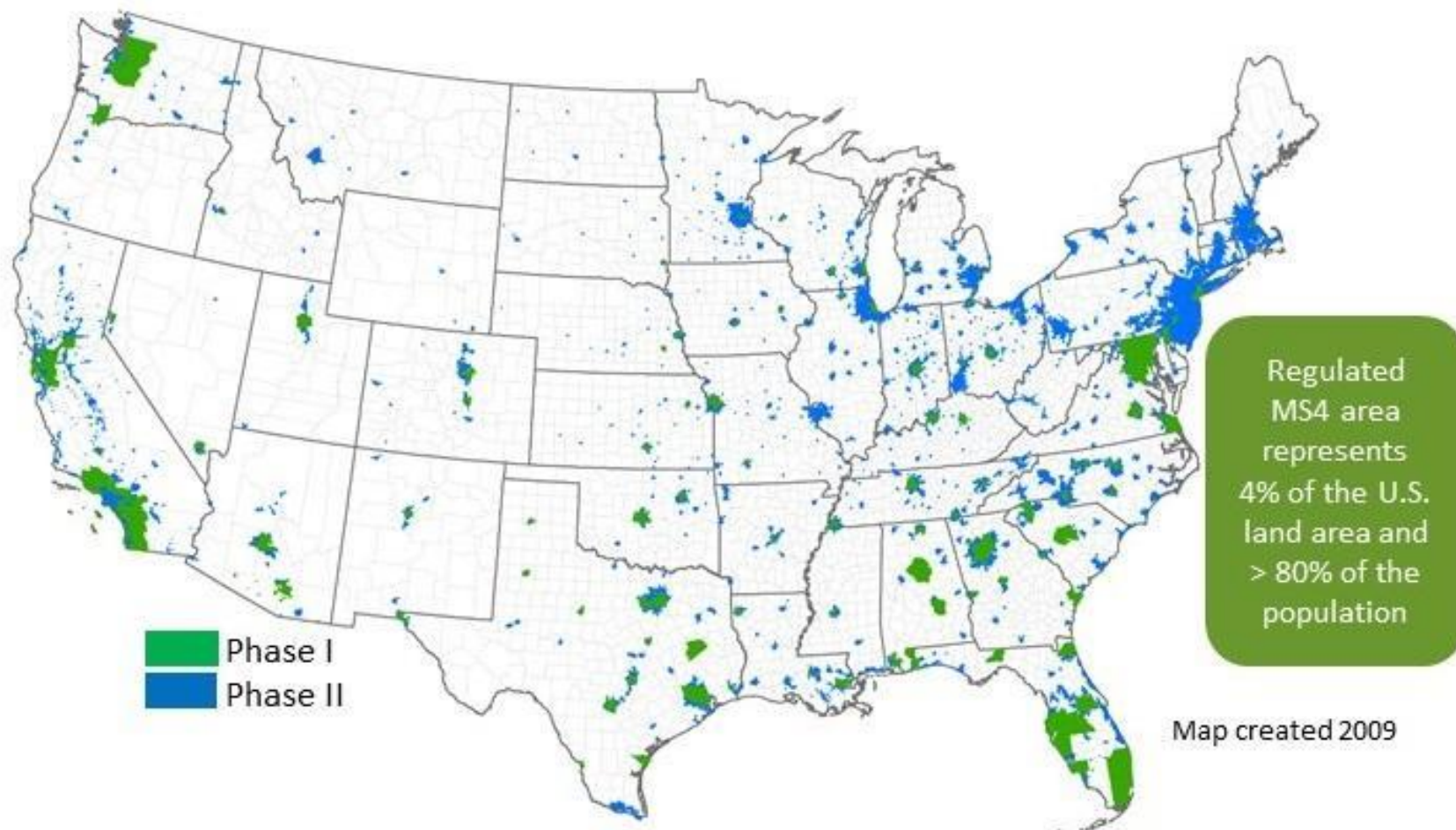
Phase I MS4s

- The 1990 Phase I regulation requires **medium** and **large** cities or certain counties with populations of **100,000 or more** to obtain NPDES permit coverage for their stormwater discharges.

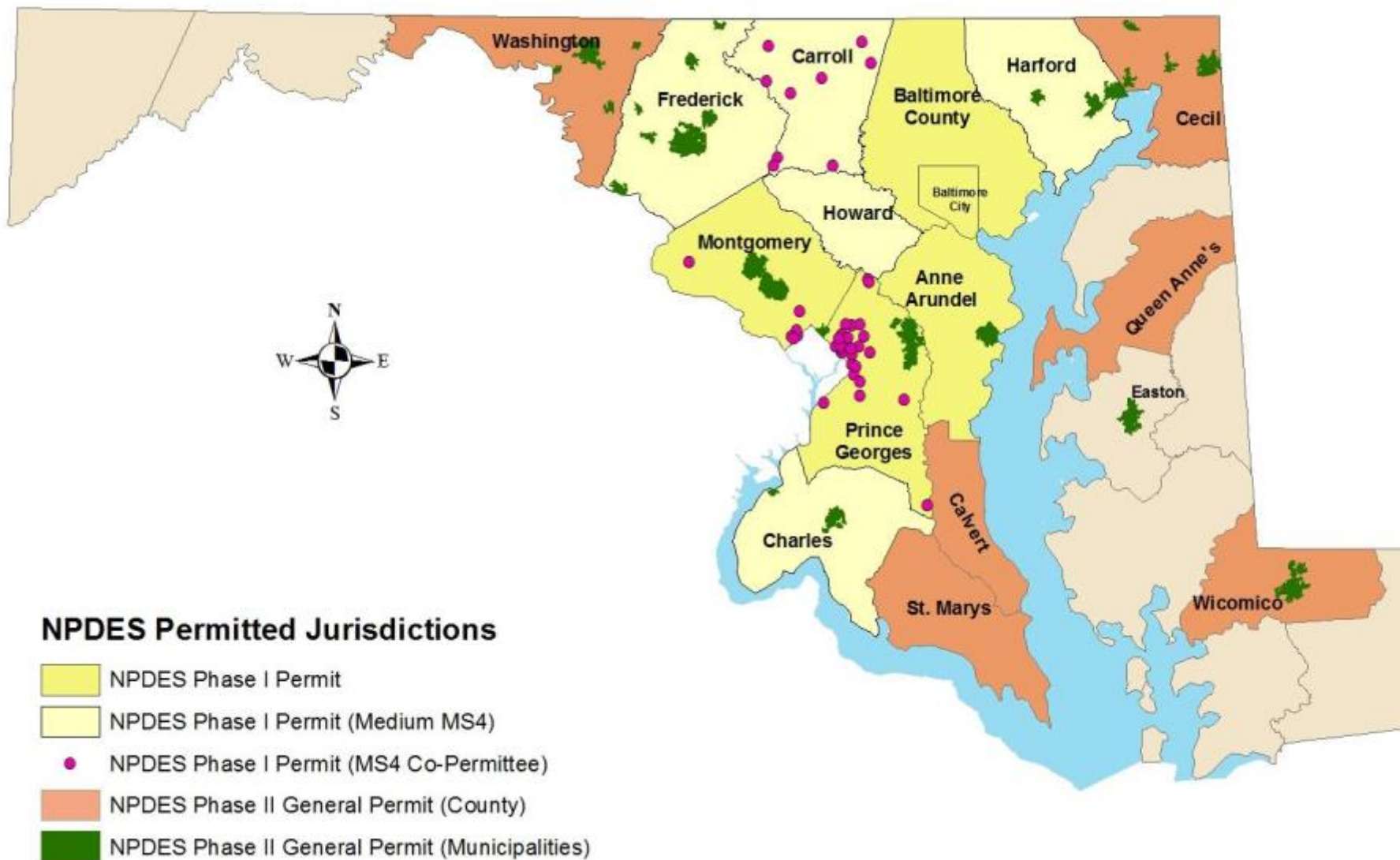
Phase II MS4s

- The 1999 Phase II regulation requires small MS4s in U.S. Census Bureau defined urbanized areas, as well as MS4s designated by the permitting authority, to obtain NPDES permit coverage for their stormwater discharges. Phase II also includes non-traditional MS4s such as public universities, departments of transportation, hospitals and prisons.

National Map of Regulated MS4s

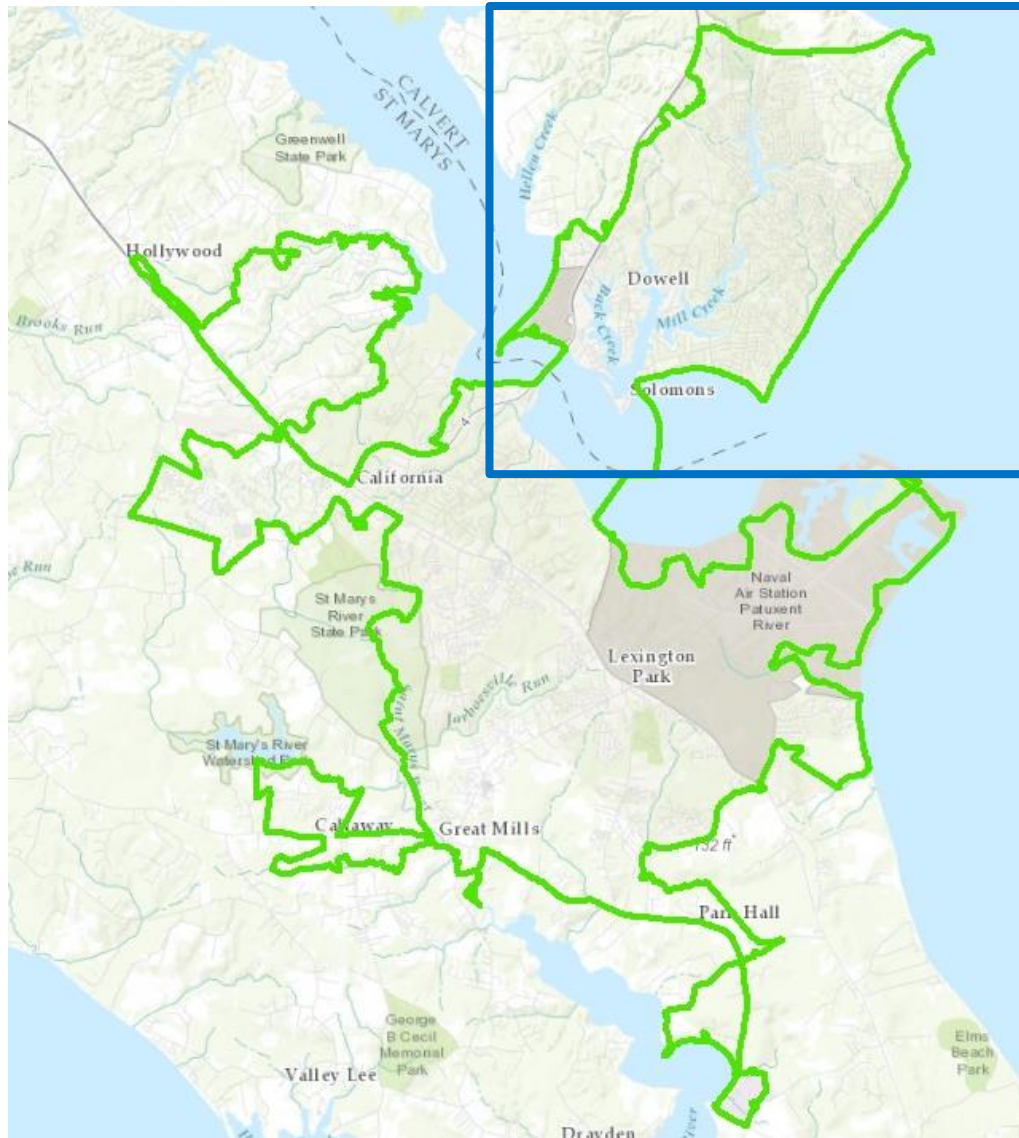


Maryland Permitted Counties



As of 2018

Calvert County MS4 Permit



- Urban areas in the United States are defined by the US Census Bureau as contiguous census block groups with a population density of at least 1,000 per square mile with any census block groups around this core having a density of at least 500 per square mile
- Both Phase I and II types of permits require mapping of stormwater systems, restoration projects, and various management programs

Calvert County MS4 Permit



The Maryland Department of the Environment (MDE) notified the Department of Public Works (DPW) that Calvert County meets the criteria for a **Phase II permit**

- Summer 2017 - Permit issued for 5 year term
- 2010 US Census identified the "Lexington Park - California - Chesapeake Ranch Estates" area as urbanized



Public Education & Outreach



**Public Involvement/
Participation**



**Illicit Discharge Detection
Elimination**

6 Minimum Control Measures



**Construction Site
Runoff Control**



**Post Construction
Runoff Control**



**Pollution Prevention/
Good Housekeeping
for Municipal Operations**

Credit for Restoration and Mitigation

Currently ~ \$800K Budgeted Annually to address requirements

Our Permit = 1,175
acres of Impervious
Surfaces

After removing 137.39
acres of treated
Impervious Surfaces
with Best Management
Practices
1,055.93 acres remain

Calvert County's
Restoration
Requirement for a five
year period is
211.19

- Septic System Pumping
- Storm Drain Vacuuming
- Storm Drain Outfall Stabilization
- Septic Denitrification
- Street Sweeping
- Stream Restoration
- Shoreline Stabilization

Calvert County has
already exceeded
the minimum
requirement of
211.19 acres in the
third year of the five
year permit

+3.1
Acres

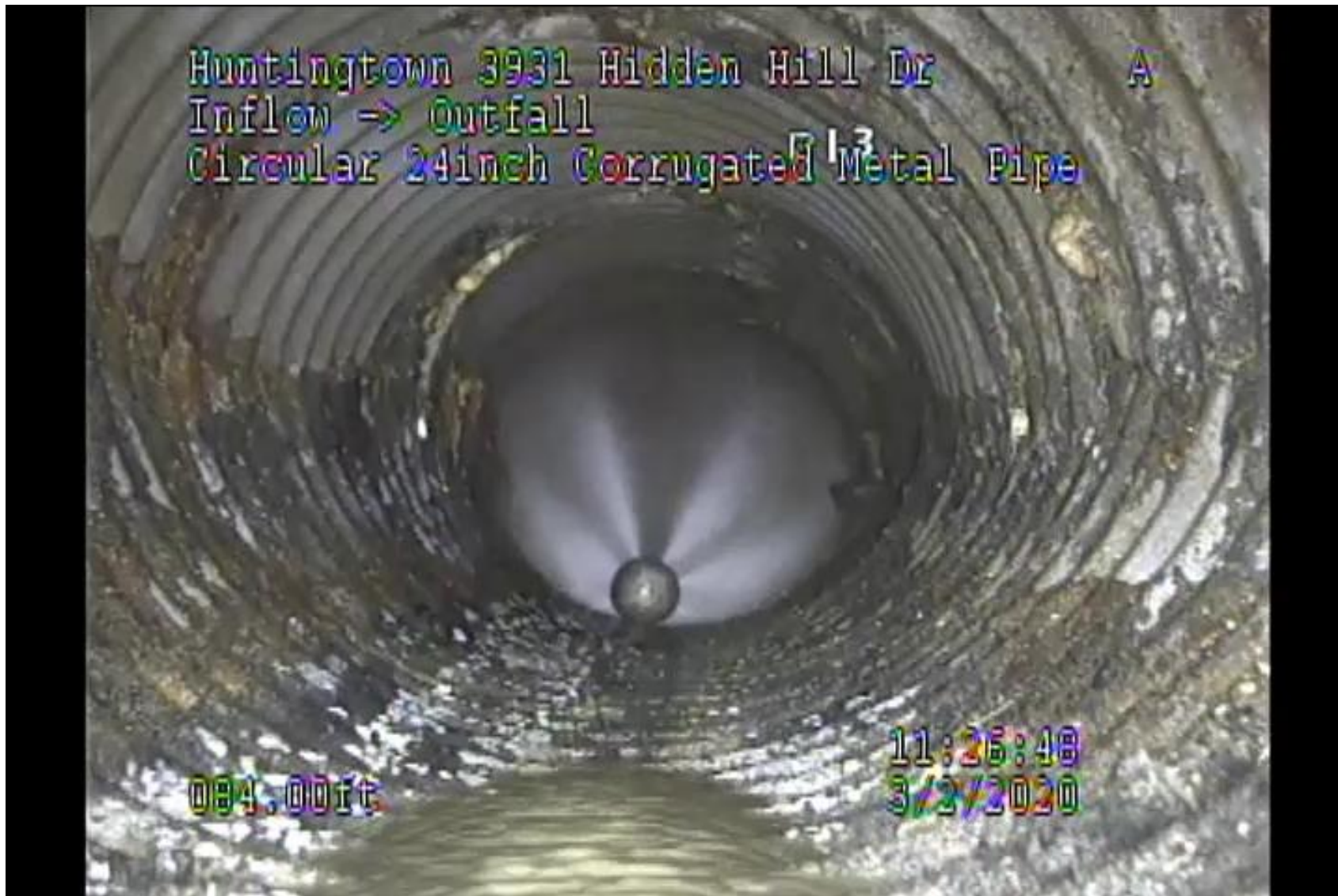
Transitioning to Deliberate Maintenance

- The County currently has over 465,000 linear feet of sewer line and drainage system infrastructure.
- DPW executes deliberate maintenance, unscheduled maintenance and deliberate inspections to remain compliant with MDE and to ensure the safety of county residents.





3931 Hidden Hill ~ Pre Inspection



3931 Hidden Hill ~ Post Inspection



- Depth of bury- 30 feet
- Diameter culvert- 24 inch
- Estimated full excavation cost- \$750k
- Expended cost- \$40k
- Reason for savings, overlay road receiving pipe evaluation by PM

Flag Ponds Shoreline

ADDRESS

Flag Ponds Nature Park, Lusby MD



SUMMARY/PURPOSE

To provide shoreline protection from erosion.

Schedule

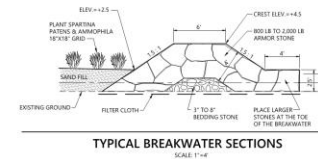
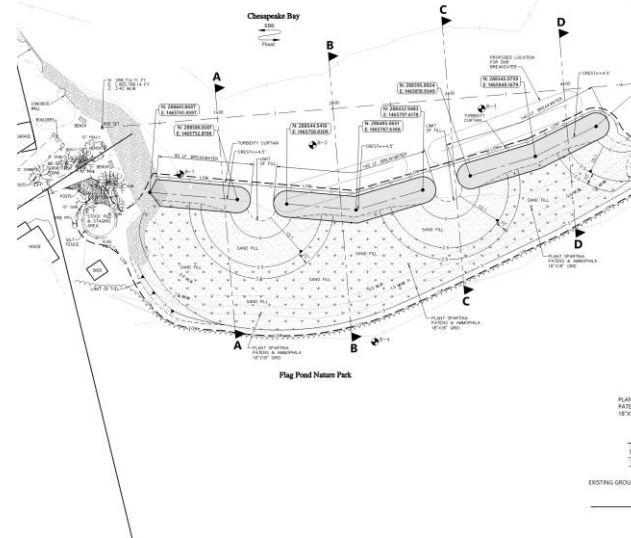
	Start Date		End Date		STATUS / NOTES
DESIGN STATUS	Estimated	Actual	Estimated	Actual	
Scope Development	12/1/16	12/1/16	8/1/17	8/1/17	
Proposals	NA		NA		
Bid	8/4/17	8/4/17	9/21/17	9/21/17	
Award	9/4/17	9/4/17	12/1/17	12/1/17	
Concept Design	12/7/12	12/7/21	2/28/18	2/28/18	
TEG	N/A	N/A	N/A	N/A	
Design Development	3/1/18	3/1/18	4/13/18	4/13/18	
Construction Documents	5/1/18	5/1/18	1/15/19	1/15/19	
Permitting	5/18/18	5/18/18	6/28/19	6/28/19	COMPLETE

	Start Date		End Date		STATUS / NOTES
CONSTRUCTION STATUS	Estimated	Actual	Estimated	Actual	
Scope Development					
Proposals					
Bid					
Award					
NTP & Construction					
U&O					
Final Billing					

DEPARTMENT Parks & Rec
PRIMARY CONTACT Karyn Molinas
CONTACT #
CONTACT Email

Architect Coastline Design

Contractor TBD



3/9/20 – Need MOA to complete construction scope of work.

Project funding is \$314K, project estimated at \$1.5 million

Funded by State Loan

BARSTOW SALT BARN

ADDRESS 340 STAFFORD ROAD, PRINCE FREDERICK



SUMMARY/PURPOSE

Replacement of the existing salt dome with an 80' x 135' salt barn with additional storage areas. Existing Salt Dome requires extensive repairs and has exceeded its useful service life. Repairs to the existing Salt Dome does not make financial sense, especially since the structure does not meet the service needs of the Highway Division during snow events.

Schedule

		Start Date		End Date		STATUS / NOTES
DESIGN STATUS		Estimated	Actual	Estimated	Actual	
Scope Development				6/5/20	7/1/20	WBCM
Proposals						
Award	7/20/20			7/20/20	7/20/20	
Concept SWM Design	12/31/20	3/2/21		4/2/21		
TEG	4/5/21			5/19/21		
Permitting	5/20/21			5/28/21		
		Start Date		End Date		STATUS / NOTES
CONSTRUCTION STATUS		Estimated	Actual	Estimated	Actual	
NTP & Construction		6/1/21		11/1/21		
U&O		11/1/21		11/1/21		

DEPARTMENT: DPW – Capital Improvement Projects

PRIMARY CONTACT Kevin Shaver

CONTACT # x2217

CONTACT Email kevin.shaver@calvertcountymd.gov

ENGINEER: WBCM

PRIMARY CONTACT: Blaine Linkous

CONTACT # 410-512-4500

CONTACT Email blinkous@wbcm.com

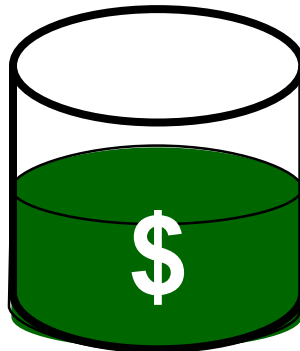
CONTRACTOR: ON-CALL CONTRACTORS

P.O. #-

PRIMARY CONTACT

CONTACT #

CONTACT Email



Project Notes:

There are some site challenges with soil conditions at the site. WBCM will be designing the Salt Barn in coordination with the Barstow Convenience Center redesign they are working on.

Concept SWM was approved on 5/28/21.

Plot Plan review will be submitted to I&P when WBCM completes the grading plan.

- Illicit Discharge Detection Elimination Ordinance
- Stream Restoration Project
- Shore Line Protection
- Brine Ready Facilities for Snow & Ice Removal

Questions